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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
VATHYAM, SUREKHA	
ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
10/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/784,278	SEKIWA ET AL.	
	Examiner	Art Unit	
	Surekha Vathyam	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 August 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on 8/9/07. These drawings are acceptable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeRemigis (US 4,097,153) in view of Saxe (US 5,325,220).

Regarding claim 1, DeRemigis ('153) discloses an electrophoretic mobility measuring apparatus (see fig. 2 and column 1, lines 7 – 11) comprising: a cell (22) capable of being filled with a sample (column 2, line 65 – column 3, line 3), the cell including at least one cell wall (see fig. 2 and column 3, lines 46 – 50); a transparent electrode (26) adjacent to the at least one cell wall (column 3, lines 46 – 50); an other electrode (24) opposite to the transparent electrode; a voltage applying means (32) for applying a voltage across both electrodes (column 3, lines 1 – 8); a light incident unit (42, 46) for entering light (48) into the cell through the transparent electrode (see fig. 2); a light receiving unit (52) for receiving, through the transparent electrode, outgoing light (50) which scatters from the sample in the cell at a predetermined angle θ with respect to the incident angle (see fig. 1); and a measuring unit (56, 58) for measuring the Doppler displacement of particles in the sample based on the difference in frequency between the incident light and the outgoing light (column 1, lines 27 – 45, column 2, lines 1 – 4 and column 2, lines 51 – 64), a direction of a scattering vector which is the vector difference between incident and outgoing vectors, being substantially identical with that of the normal line of the transparent electrode face (see figs. 1 and 2; column 2, lines 51 – 64 and column 3, lines 37 – 44). DeRemigis ('153) discloses the

transparent electrode being adjacent to the at least one cell wall which is also transparent thus permitting unobstructed transmission of light beams there through (see fig. 2 and column 3, lines 46 – 50). DeRemigis ('153) does not explicitly disclose forming the transparent electrode on the cell wall.

Saxe ('220) teaches a cell including at least one cell wall and a transparent electrode forming a part of the at least one cell wall (column3, line 67 – column 4, line 13).

It would have been obvious to one of ordinary skill in the art to have formed the transparent electrode as a part of the at least one cell wall as taught by Saxe ('220) to support the electrode. DeRemigis ('153) discloses the need to have the transparent electrode and cell wall adjacent to each other to permit unobstructed passage of light beams there through (column 3, lines 46 – 50) and Saxe ('220) teaches coating a transparent electrode on to a cell wall to permit the passage of light there through (column 3, line 67 – column 4, line 13).

Regarding claim 2, DeRemigis ('153) discloses the electrophoretic mobility measuring apparatus wherein the direction of the scattering vector is substantially identical with that of an electric field (see figs. 1 and 2; column 2, lines 51 – 64 and column 3, lines 37 – 44).

Regarding claim 3, DeRemigis ('153) does not explicitly disclose the transparent electrode is coated with platinum or platinum alloy.

Saxe ('220) teaches a cell comprising at least one transparent electrode coated with platinum (column 4, lines 8 – 13).

It would have been obvious to one of ordinary skill in the art to modify the apparatus of DeRemigis ('153) to have a platinum coating for the transparent electrode as taught by Saxe ('220) because a platinum coating is electrically conductive and is well known in the art for its use as an electrode material.

Regarding claim 4, DeRemigis ('153) discloses the electrophoretic mobility measuring apparatus wherein the cell inside is a casing-shape body provided at both end faces thereof with the electrodes, one of which is the transparent electrode (see fig. 2).

Regarding claim 5, DeRemigis ('153) discloses the electrophoretic mobility measuring apparatus wherein a scattering light measuring point is located between the center line of a rectangular parallelepiped or cylindrical casing-shape body, and the inner wall of a lateral side thereof (see fig. 2).

Regarding claim 6, DeRemigis ('153) discloses the electrophoretic mobility measuring apparatus wherein the transparent electrode is formed on a transparent substrate (column 3, lines 46 – 50), the light incident unit is arranged to enter light through one lateral side of the transparent substrate, and the light receiving unit is arranged to receive the light which outgoes through the other lateral side of the transparent substrate (see fig. 2).

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeRemigis (US 4,097,153) in view of Saxe (US 5,325,220) as applied to claim 1 above, and further in view of Goldfarb (US 5,575,936).

DeRemigis ('153) in view of Saxe ('220) discloses the electrophoretic mobility measuring apparatus as discussed with regards to claim 1 above. Regarding claim 7, DeRemigis ('153) in view of Saxe ('220) does not explicitly disclose a cell driving means.

Goldfarb ('936) teaches an apparatus comprising a cell driving means (16) for moving a cell (15) in the x, y and z directions with respect to a light incident unit (11) (see figs. 4 and 5 and column 4, line 16 – column 5, line 8).

It would have been obvious to one of ordinary skill in the art to modify the apparatus of DeRemigis ('153) in view of Saxe ('220) to include a cell driving means as taught by Goldfarb ('936) because such XYZ tables are well known in the art as pointed out by Goldfarb ('936) (column 4, lines 21 – 24) and help align the focal point (14) of laser beam (12) at any desired angle with respect to the cell (15) (column 2, lines 30 – 40).

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeRemigis (US 4,097,153) in view of Saxe (US 5,325,220) as applied to claim 1 above, and further in view of Zeineh (US 4,025,200).

Regarding claims 8 and 9, DeRemigis ('153) in view of Saxe ('220) does not explicitly disclose a cylindrical lens in the light incident unit (claim 8) or in the light receiving unit (claim 9).

Zeineh ('200) teaches a light system that uses a cylindrical lens (17) (see fig. 1 and column 3, line 44 – column 4, line 18).

It would have been obvious to one of ordinary skill in the art to modify the apparatus of DeRemigis ('153) in view of Saxe ('220) to include a cylindrical lens in the light incident or light receiving unit as taught by Zeineh ('200) because the cylindrical lens has the ability to change the width of a light beam as explained by Zeineh ('200) (see figs. 1 and 2 and column 2, lines 22 – 33).

8. Claims 10 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeRemigis (US 4,097,153) in view of Yano et al. (US 4,123,841).

Regarding claim 10, DeRemigis ('153) discloses an electrophoretic mobility measuring apparatus (see fig. 2 and column 1, lines 7 – 11) comprising: a cell (22) capable of being filled with a sample (column 2, line 65 – column 3, line 3), the cell including at least one cell wall (see fig. 2 and column 3, lines 46 – 50); a first electrode (26) adjacent to the at least one cell wall (see fig. 2 and column 3, lines 46 – 50); an other electrode (24) opposite to the first electrode; a voltage applying means (32) for applying a voltage across both electrodes (column 3, lines 1 – 8); a light incident unit (42, 46) for entering light (48) into the cell through the first electrode (see fig. 2); a light

receiving unit (52) for receiving the outgoing light (50) which scatters from the sample in the cell at a predetermined angle θ with respect to the incident angle (see fig. 1); and a measuring unit (56, 58) for measuring the Doppler displacement of particles in the sample based on the difference in frequency between the incident light and the outgoing light (column 1, lines 27 – 45, column 2, lines 1 – 4 and column 2, lines 51 – 64), the direction of scattering vector which is the vector difference between incident and outgoing vectors, being substantially identical with that of the normal line of the first electrode face (see figs. 1 and 2; column 2, lines 51 – 64 and column 3, lines 37 – 44). DeRemigis ('153) discloses the first electrode being adjacent to the at least one cell wall which is transparent and the need for permitting unobstructed transmission of both incident and outgoing light beams there through (see fig. 2 and column 3, lines 46 – 50). DeRemigis ('153) does not explicitly disclose forming the first electrode on the cell wall. DeRemigis ('153) also does not explicitly disclose the first electrode (26) to be an opaque electrode with transparent windows for light to be incident or to be outgoing.

Yano ('841) teaches a cell comprising electrodes that form a part of the cell wall by being applied as a film (column 3, line 61 – column 4, line 10) and at least one electrode being opaque and having transparent window portions (see column 3, lines 42 – 47).

It would have been obvious to one of ordinary skill in the art to modify the apparatus of DeRemigis ('153) to have the first electrode be a part of the cell wall and be opaque with transparent window portions as taught by Yano ('841) because applying the electrode as a film on the cell wall helps support the electrode and in the case of an

opaque electrode having transparent window portions helps achieve DeRemigis ('153) disclosed need to permit unobstructed passage of light beams through the first electrode and cell wall (column 3, lines 46 – 50). Yano ('841) also explains the opaque electrode with window portions enables the use of the cell as a display (column 3, lines 42 – 47).

Regarding claim 11, DeRemigis ('153) discloses the electrophoretic mobility measuring apparatus wherein a direction of a scattering vector is substantially identical with that of an electric field (see figs. 1 and 2; column 2, lines 51 – 64 and column 3, lines 37 – 44).

Regarding claim 12, Yano ('841) teaches a cell-side face of the opaque electrode is coated with platinum or platinum alloy (column 3, lines 64 – 67).

Regarding claim 13, DeRemigis ('153) discloses the electrophoretic mobility measuring apparatus wherein the first electrode (26) is formed on a transparent substrate (column 3, lines 46 – 50), the light incident unit is arranged to enter light through one lateral side of the transparent substrate, and the light receiving unit is arranged to receive the light which outgoes through the other lateral side of the transparent substrate (see fig. 2). Yano ('841) teaches an opaque electrode (column 3, lines 42 – 47) formed on a transparent substrate (column 3, lines 61 – 63).

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeRemigis (US 4,097,153) in view of Yano et al. (US 4,123,841) as applied to claim 10 above, and further in view of Goldfarb (US 5,575,936).

Regarding claim 14, DeRemigis ('153) in view of Yano ('841) does not explicitly disclose a cell driving means.

Goldfarb ('936) teaches an apparatus comprising a cell driving means (16) for moving a cell (15) in the x, y and z directions with respect to a light incident unit (11) (see figs. 4 and 5 and column 4, line 16 – column 5, line 8).

It would have been obvious to one of ordinary skill in the art to modify the apparatus of DeRemigis ('153) in view of Yano ('841) to include a cell driving means as taught by Goldfarb ('936) because such XYZ tables are well known in the art as pointed out by Goldfarb ('936) (column 4, lines 21 – 24) and help align the focal point (14) of laser beam (12) at any desired angle with respect to the cell (15) (column 2, lines 30 – 40).

10. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeRemigis (US 4,097,153) in view of Yano et al. (US 4,123,841) as applied to claim 10 above, and further in view of Zeineh (US 4,025,200).

Regarding claims 15 and 16, DeRemigis ('153) in view of Yano ('841) does not explicitly disclose a cylindrical lens in the light incident unit (claim 15) or in the light receiving unit (claim 16).

Zeineh ('200) teaches a light system that uses a cylindrical lens (17) (see fig. 1 and column 3, line 44 – column 4, line 18).

It would have been obvious to one of ordinary skill in the art to modify the apparatus of DeRemigis ('153) in view of Yano ('841) to include a cylindrical lens in the light incident or light receiving unit as taught by Zeineh ('200) because the cylindrical lens has the ability to change the width of a light beam as explained by Zeineh ('200) (see figs. 1 and 2 and column 2, lines 22 – 33).

Response to Arguments

Applicant's arguments filed 9 August 2007 have been fully considered but they are not persuasive. Regarding the amended claim 1 limitation, "a transparent electrode forming a part of the at least one cell wall", DeRemigis ('153) discloses the transparent electrode being adjacent to the at least one cell wall which is also transparent thus permitting unobstructed transmission of light beams there through (see fig. 2 and column 3, lines 46 – 50). DeRemigis ('153) does not explicitly disclose how the transparent electrode is supported adjacent to the cell wall. Saxe ('220) teaches a cell including at least one cell wall wherein a transparent electrode is supported as a film on the at least one cell wall (column3, line 67 – column 4, line 13). It would have been obvious to one of ordinary skill in the art to have looked to the prior art such as the teaching of Saxe ('220) and formed the transparent electrode of DeRemigis ('153) as a part of the at least one cell wall in order to support the transparent electrode. Similarly,

regarding the amended claim 10 limitation, "an opaque electrode forming a part of the at least one cell wall", DeRemigis ('153) discloses the first electrode being adjacent to the at least one cell wall which is transparent and the need for permitting unobstructed transmission of both incident and outgoing light beams there through (see fig. 2 and column 3, lines 46 – 50). DeRemigis ('153) does not explicitly disclose how the first electrode is supported adjacent to the cell wall. Yano ('841) teaches a cell comprising electrodes that that are supported on the cell wall by being applied as a film (column 3, line 61 – column 4, line 10). It would have been obvious to one of ordinary skill in the art to have looked to the prior art such as the teaching of Yano ('841) and formed the first electrode of DeRemigis ('153) as a part of the at least one cell wall in order to support the first electrode.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Surekha Vathyam whose telephone number is 571-272-2682. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/SV/
16 October 2007